

Water supply conditions across Montana remain below to well below average. Most surface Water Supply Indices remain moderately dry to extremely dry. May snowmelt continued to be much earlier than normal and mountain snowpacks are nearly depleted. May precipitation ranged from well below average to average, adding little to the below average water year precipitation totals for most of the basins statewide. Overall, basin reservoir storages are near average for this time of year. Most streamflows have reached their seasonal peaks and are beginning to drop, reflecting this seasons well below average snowpack.

SNOWPACK

May snow water contents were well below average and below those of last year. Snowmelt continued at a rapid pace during May and most mountain snowpacks are now nearly depleted. All low and mid elevation snowpacks have melted out, and remaining snowpacks are at the highest elevations in each basin. Snow water contents generally average around 15 to 40% of average. Snow water contents, west of the Divide, are generally less than 15% of average, except on the Flathead River Basin where 20 to 25% of average snow water contents remain, and range from a high of 30% of average in the Tobacco Basin to a low of 0% of average in the Bitterroot. Snow water contents east of the Divide are similar where most basins report little or no remaining snow water. Snow water contents range from a high of 35% of average in the Upper Yellowstone Basin in Wyoming to a low of 0% of average in the Milk Basin. Snow water contents in the Lower Yellowstone Basins, in Wyoming, range from a high of 46% of average to a low of 24% of average.

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PRECIPITATION

May mountain precipitation across the state was generally below to well below average in all major basins, except the Lower Yellowstone Basin where near average was reported. West of the Divide, May mountain precipitation ranged from a high of 74% of average in the Kootenai Basin to a low of 37% of average in the Upper Clarkfork and Bitterroot Basins. East of the Divide, May mountain precipitation highs were around 75% of average in the central and south-central basins. Lows ranged from 35% to 45% of average in the extreme southwestern and north-central basins. Near average precipitation was reported on the Lower Yellowstone tributaries in Wyoming. Water year precipitation, beginning October 1, 1991, ranged from well below average to near average. West of the Divide water year precipitation was the highest in the Bitterroot Basin at 80% of average and the lowest in the Upper Clarkfork Basin at 70% of average. East of the Divide, water year precipitation was the highest at 95% of average in the Lower Yellowstone Basin, in Wyoming, and the lowest at 73% of average in the Sun Teton, Marias and Main Stem Missouri Basins.

RESERVOIRS

Most reservoir storages on the Milk, St. Mary's and Jefferson River Basins were below to well below average on the first day of June. Well below average reservoir storages occur on the Smith River and Martinsdale in central Montana. Elsewhere, irrigation reservoirs generally have near average storage. Larger multi-purpose reservoir storages are near average, except Ft. Peck which was about 70% of average. The anticipated low runoff conditions for the remainder of the season will result in most irrigation reservoirs being drafted earlier than normal. Many are already being lowered as demands for water increase.

STREAMFLOW

Many streamflows were generally below to well below average except on the Gallatin and Upper Yellowstone Basins where the early snowmelt produced near to above average runoff. Streamflows have reached their seasonal peak flows and are now beginning to recede. Streamflows for the summer are expected to be well below average with many forecast to be near record low flows. West of the Divide, streamflow forecasts range from 20 to 45% of average in the Upper Clark Fork and Bitterroot Basins and 35 to 45% of average elsewhere. East of the Divide, streamflow forecasts generally range for 15 to 35% of average, except on the Madison, Gallatin and Upper Yellowstone River Basins where most forecasts range from 40 to 65% of average.

SOIL MOISTURE

Most mountain soil surface and effective rooting depth soil moisture conditions, remain fair to good with deeper soil conditions fair to poor. With most of the snowpack nearly depleted, soil moisture conditions are expected to dry-out earlier than normal, unless average to above average precipitation is received through the remainder of the spring and summer.

SURFACE WATER SUPPLY INDEX

The Surface Water Supply Index (SWSI) is a measure of available surface water supplies during the spring and summer months. The index ranges from -4.0 to +4.0. A SWSI of -4.0 represents an extremely dry situation, 0 is near a normal situation and +4.0 represents an extremely wet situation. The SWSI provides a scale to evaluate various levels of wetness or dryness and water supply conditions across the state. The SWSI takes into account snowpack, mountain precipitation, soil moisture and available reservoir storage.

SWSI Scale

SWSI	DESIGNATION
+3.0 to +4.0	Extremely wet
+2.0 to +3.0	Moderately wet
+1.0 to +2.0	Slightly wet
-1.0 to +1.0	Near average
-1.0 to -2.0	Slightly dry
-2.0 to -3.0	Moderately dry
-3.0 to -4.0	Extremely dry

The first of June SWSI's indicate moderate to extremely short water supply conditions will persist throughout Montana for the remainder of the irrigation season. Most SWSI's are -2.5 or lower, except in the Upper and Lower Yellowstone Basins where they generally range from -1.0 to -2.0. Current SWSI's for the major river basins in Montana are as follows:

SWSI

Basin

-1.6 Kootenai River at Ft. Steele (Kootenay in Canada)
-2.4 Tobacco River
-3.0 Kootenai Ft. Steele to Libby Dam
-0.7 Kootenai River below Libby Dam
-3.8 Fisher River
-3.4 Yaak River
-3.4 N. Fk. Flathead River
-2.9 Middle FK Flathead River
-2.2 S. Fk. Flathead River
-2.8 Flathead River at Columbia Falls
-3.1 Stillwater/Whitefish Rivers
-3.2 Swan River
-2.6 Flathead River at Polson
-2.9 Mission Valley
-2.1 Little Bitterroot River
-3.7 Clark Fork River above Rock Creek
-2.9 Blackfoot River
-2.8 Bitterroot River
-3.2 Clark Fork River above Missoula
-3.1 Clark Fork River below Bitterroot River
-2.8 Clark Fork River below Flathead River
-3.8 Beaverhead River
-3.4 Ruby River
-3.2 Big Hole River
-3.6 Boulder River (Jefferson)
-3.4 Jefferson River
-2.9 Madison River
-2.7 Gallatin River
-3.1 Missouri River above Canyon Ferry
-2.9 Missouri River below Canyon Ferry
-2.5 Smith River
-3.2 Sun River
-2.8 Teton River
-3.2 Birch/Dupuyer Creeks
-3.1 Marias River
-2.2 Musselshell River
-2.8 Missouri River above Ft. Peck
-2.5 Missouri River below Ft. Peck
-2.9 Milk River (USBR users)
-3.2 Milk River (other users)
-1.5 Yellowstone River above Livingston
-1.1 Shields River
-1.4 Boulder River (Yellowstone)
-1.6 Stillwater River
-1.4 Rock/Red Lodge Creeks
-1.9 Clarks Fork River
-1.6 Yellowstone River above Bighorn River
-1.1 Bighorn River below Bighorn Lake
-1.4 Little Bighorn River
-1.5 Yellowstone River below Bighorn River
-0.7 Tongue River
-1.2 Powder River

KOOTENAI RIVER BASIN in Montana as of June 1, 1992

Mountain precipitation during May was 74% of average and 76% of last year. Water year precipitation, beginning October 1, 1991, was 72% of average and 52% of last year. Six of the eight snow data sites have now melted out. Snow water content was 7% of average and 3% of last year. Lake Kootenai storage on the last day of May was 109% of average and 123% of last year. May streamflows were well below average and will be well below average, ranging from 41 to 47% of average, during their forecast periods. The Surface Water Supply Indices range from -2.5 to -3.8 on the tributary streams and -0.7 on the Kootenai Mainstem below Libby Dam.

KOOTENAI at Libby Dam (1,2)

JUN-JUL	1440	2050	2320	54	2420	2720	3400
JUN-SEP	1910	2630	2900	58	3280	4000	4670

FORECAST at Libby

JUN-JUL	2.0	20	74	41	38	50	70
JUN-SEP	16.0	31	40	47	43	53	56

DATA BY YEAR

JUN-JUL	75	51	66	44	36	117	171
JUN-SEP	44	61	73	45	44	130	174

KOOTENAI at Joseph (1,2)

JUN-JUL	1330	2070	2410	50	2730	3480	4010
JUN-SEP	1780	2630	3030	50	3430	4320	5091

* 5%, 10%, 50%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 50% Chances of Exceeding are actually 75 and 50% exceedance levels.

(2) - The value is natural flow - actual flow may be affected by upstream water management.

KOOTENAI RIVER BASIN in Montana
Streamflow Forecasts - June 1, 1992

	<== Drier == Future Conditions == Wetter ==>						
Forecast Pt	Chance of Exceeding *						
Forecast	90%	70%	50% (Most Prob)	30%	10%		30 Yr Avg
Period	(1000AF)	(1000AF)	(1000AF) (% AVG.)	(1000AF)	(1000AF)		(1000AF)
TOBACCO nr Eureka							
JUN-JUL	16.0	24	29	47	34	42	62
JUN-SEP	24	33	39	51	45	54	76
KOOTENAI bl Libby Dam (1,2)							
JUN-JUL	1440	2050	2330	64	2610	3220	3633
JUN-SEP	1910	2630	2960	64	3290	4010	4626
FISHER nr Libby							
JUN-JUL	8.0	20	29	41	38	50	70
JUN-SEP	18.0	31	40	47	49	63	86
YAAK nr Troy							
JUN-JUL	36	51	66	44	86	117	151
JUN-SEP	44	61	78	45	99	130	174
KOOTENAI at Leonia (1,2)							
JUN-JUL	1330	2070	2410	60	2750	3490	4010
JUN-SEP	1780	2650	3050	60	3450	4320	5091

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural flow - actual flow may be affected by upstream water management.

KOOTENAI RIVER BASIN in Montana
Reservoir Storage (1000AF) End of May

Reservoir	Usable Capacity	***** This Year	***** Usable Storage ***** Last Year	***** Average
LAKE KOOCANUSA	5748.0	3486.0	2827.0	3186.0

KOOTENAI RIVER BASIN in Montana
Watershed Snowpack Analysis - June 1, 1992

Watershed	Number of Data Sites	This Year as Last Year	Percent of Average
EAST KOOTENAI in B.C.	4	23	32
KOOTENAI MAINTSTEM in MT	7	4	9
TOBACCO	2	16	30
FISHER	1	0	0
YAAK	2	0	0
KOOTENAI in MT	9	3	7
KOOTENAI ab Bonners Ferry	13	8	14

FLATHEAD RIVER BASIN as of June 1, 1992

Snow water content is 21% of average and is 15% of last year. Remaining basin snowpack is at the highest elevations and occurs on the coolest aspects. May mountain precipitation was 74% of average and 76% of last year. Water year precipitation, beginning October 1, 1991, was 72% of average and 52% of last year. All streams have reached their seasonal peaks. May streamflows were below average. Forecast streamflows will be well below average, ranging from 37 to 49% of average, for their forecast periods. The Surface Supply Indices (SWSI's) range from -2.6 to -3.8 except on the South Fork Flathead and Little Bitterroot drainages which have SWSI's of -2.2 and -2.1 respectively.

BY FLATHEAD or West Glacier

JUN-JUL	215	275	335	38	175	405	477
JUN-SEP	315	345	405	42	485	555	1027

BY FLATHEAD or Columbia Fie (1,2)

JUN-JUL	285	320	380	37	460	521	1017
JUN-SEP	380	415	475	41	535	602	1133

FLATHEAD at Columbia Falls (2)

JUN-JUL	830	1010	1120	38	1150	1700	1860
JUN-SEP	1150	1350	1490	43	1650	1930	3177

STANWATER or Whitefish

JUN-JUL	26	28	33	40	38	44	41
JUN-SEP	33	40	46	45	52	60	101

WHITEFISH or Kalispell

JUN-JUL	17.0	20	22	32	24	27	58
JUN-SEP	24	27	30	42	33	36	71

SHAN or Bigfork

JUN-JUL	110	141	157	45	176	198	371
JUN-SEP	141	190	210	52	230	260	490

FLATHEAD or Polson (1,2)

JUN-JUL	605	1120	1280	39	1430	1700	2115
JUN-SEP	1070	1430	1600	45	1830	2250	3520

* 50%, 75%, 90%, and 95% chances of exceeding are the probabilities that the actual flow will exceed the values in the table.

The forecast is computed for the first 100% year period.

(1) - The values listed under 50%, 75% and 90% chances of exceeding are normally 10 and 20% exaggerated values.

(2) - The value in column 50% - actual flow may be adjusted by upstream water management.

FLATHEAD RIVER BASIN
Streamflow Forecasts - June 1, 1992

	<--- Drier --- Future Conditions --- Wetter --->						
Forecast Pt	Chance of Exceeding *						
Forecast	90%	70%	50% (Most Prob)	30%	10%		30 Yr Avg
Period	(1000AF)	(1000AF)	(1000AF) (% AVG.)	(1000AF)	(1000AF)		(1000AF)
NF FLATHEAD nr Columbia Falls							
JUN-JUL	285	355	405	46	455	525	872
JUN-SEP	410	490	545	52	600	680	1046
MF FLATHEAD nr West Glacier							
JUN-JUL	215	275	320	36	365	425	877
JUN-SEP	315	385	435	42	485	555	1027
SF FLATHEAD nr Columbia Fls (1,2)							
JUN-JUL	205	320	380	37	440	575	1019
JUN-SEP	300	415	475	41	535	675	1153
FLATHEAD at Columbia Falls (2)							
JUN-JUL	850	1010	1120	39	1230	1390	2840
JUN-SEP	1150	1350	1490	45	1630	1830	3317
STILLWATER nr Whitefish							
JUN-JUL	20	28	33	40	38	46	82
JUN-SEP	32	40	46	46	52	60	101
WHITEFISH nr Kalispell							
JUN-JUL	17.0	20	22	38	24	27	58
JUN-SEP	24	27	30	42	33	36	71
SWAN nr Bigfork							
JUN-JUL	116	141	157	49	174	198	321
JUN-SEP	161	190	210	52	230	260	404
FLATHEAD nr Polson (1,2)							
JUN-JUL	805	1130	1280	39	1430	1760	3315
JUN-SEP	1030	1450	1640	43	1830	2250	3850

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural flow - actual flow may be affected by upstream water management.

FLATHEAD RIVER BASIN
Reservoir Storage (1000AF) End of May

Reservoir	Usable Capacity	***** This Year	Usable Storage Last Year	***** Average
CAMAS (4)	45.2	31.5	42.4	31.1
MISSION VALLEY (8)	100.0	55.0	43.8	68.9
HUNGRY HORSE	3451.0	2647.0	2324.0	2659.0
FLATHEAD LAKE	1791.0	1581.0	1546.0	1480.0

FLATHEAD RIVER BASIN
Watershed Snowpack Analysis - June 1, 1992

Watershed	Number of Data Sites	This Year as Percent of Last Year	Percent of Average
NORTH FORK FLATHEAD	6	15	24
MIDDLE FORK FLATHEAD	4	12	22
SOUTH FORK FLATHEAD	2	23	25
STILLWATER-WHITEFISH	4	0	0
SWAN	8	21	25
MISSION VALLEY	6	20	25
LITTLE BITTERROOT-ASHLEY	1	0	0
JOCKO	5	15	18
FLATHEAD	21	15	21

UPPER CLARK FORK RIVER BASIN as of June 1, 1992

Snow water content is 11% of average and is 9% of last year. Remaining basin snowpack is at the highest elevations and occurs on the coolest aspects. May mountain precipitation was 38% of average and 39% of last year. Water year precipitation, beginning October 1, 1991, was 71% of average and 70% of last year. All streams have reached their seasonal peaks. May streamflows were well below average. Forecast streamflows will be well below average, ranging from 20 to 43% of average, for their forecast periods. Basin reservoir storages are near average for this time of year, but slightly below where they were last year at this time. The Surface Water Supply Index (SWSI) was -2.9 for the Blackfoot River and -3.2 for the Clark Fork River above Missoula.

CLARK CK at Cascade (2)	JUN-JUL	9.1	10.1	11.1	43	14.3	14.3	95
JUN-SEP	15.1	16.3	17.8	31	32	38	39	

LITTLE BLACKFOOT nr Garrison	JUN-JUL	5.4	6.8	8.2	24	17.3	31	36
JUN-SEP	9.4 <td>11.9 <td>14.5 <td>33 <td>23 <td>40 <td>41 </td></td></td></td></td></td>	11.9 <td>14.5 <td>33 <td>23 <td>40 <td>41 </td></td></td></td></td>	14.5 <td>33 <td>23 <td>40 <td>41 </td></td></td></td>	33 <td>23 <td>40 <td>41 </td></td></td>	23 <td>40 <td>41 </td></td>	40 <td>41 </td>	41	

ELIST CK nr SodaSprings Cross (2)	JUN-JUL	1.6	1.9	2.3	29	3.6	5.5	8.0
JUN-SEP	2.4 <td>2.8 <td>3.3 <th>29</th> <th>4.8</th> <th>7.6</th> <th>10.8</th> </td></td>	2.8 <td>3.3 <th>29</th> <th>4.8</th> <th>7.6</th> <th>10.8</th> </td>	3.3 <th>29</th> <th>4.8</th> <th>7.6</th> <th>10.8</th>	29	4.8	7.6	10.8	

ELIST CK nr Boulder Ck	JUN-JUL	11.2	12.2	13.4	36	17.8	23	34
JUN-SEP	19.0 <td>21 <td>23 <th>46</th> <th>29</th> <th>38</th> <th>50</th> </td></td>	21 <td>23 <th>46</th> <th>29</th> <th>38</th> <th>50</th> </td>	23 <th>46</th> <th>29</th> <th>38</th> <th>50</th>	46	29	38	50	

LOWER WILLOW CK ERS Inflow	JUN-JUL	0.7	0.9	1.0	21	1.7	2.8	4.6
JUN-SEP	1.0 <td>1.2 <td>1.3 <th>24</th> <th>2.1</th> <th>3.2</th> <th>3.5</th> </td></td>	1.2 <td>1.3 <th>24</th> <th>2.1</th> <th>3.2</th> <th>3.5</th> </td>	1.3 <th>24</th> <th>2.1</th> <th>3.2</th> <th>3.5</th>	24	2.1	3.2	3.5	

NE ROCK CK nr Phillipsburg	JUN-JUL	8.8	10.1	11.2	27	14.9	20	42
JUN-SEP	12.7 <td>14.3 <td>15.9 <th>32</th> <th>20</th> <th>36</th> <th>49</th> </td></td>	14.3 <td>15.9 <th>32</th> <th>20</th> <th>36</th> <th>49</th> </td>	15.9 <th>32</th> <th>20</th> <th>36</th> <th>49</th>	32	20	36	49	

ROCK CK nr Clinton	JUN-JUL	49	51	58	23	43	75	163
JUN-SEP	81 <td>98 <td>48 <th>31</th> <th>81</th> <th>104</th> <th>102</th> </td></td>	98 <td>48 <th>31</th> <th>81</th> <th>104</th> <th>102</th> </td>	48 <th>31</th> <th>81</th> <th>104</th> <th>102</th>	31	81	104	102	

TRUCK CK nr Troy	JUN-JUL	1.3	1.6	1.9	23	3.0	4.5	7.2
JUN-SEP	1.9 <td>2.1 <td>2.3 <th>27</th> <th>4.2</th> <th>6.4</th> <th>7.4</th> </td></td>	2.1 <td>2.3 <th>27</th> <th>4.2</th> <th>6.4</th> <th>7.4</th> </td>	2.3 <th>27</th> <th>4.2</th> <th>6.4</th> <th>7.4</th>	27	4.2	6.4	7.4	

TRUCK CK nr Glasgow	JUN-JUL	14.9	17.8	20	31	38	49	61
JUN-SEP	19.0 <td>21 <td>28 <th>38</th> <th>31</th> <th>47</th> <th>76</th> </td></td>	21 <td>28 <th>38</th> <th>31</th> <th>47</th> <th>76</th> </td>	28 <th>38</th> <th>31</th> <th>47</th> <th>76</th>	38	31	47	76	

BLACKFOOT nr Thomas	JUN-JUL	91	108	123	33	175	219	244
JUN-SEP	137 <th>177</th> <th>200</th> <th>40</th> <th>237</th> <th>223</th> <th>261</th>	177	200	40	237	223	261	

UPPER CLARK FORK RIVER BASIN
Streamflow Forecasts - June 1, 1992

	<== Drier == Future Conditions == Wetter ==>						
Forecast Pt	Chance of Exceeding *						
Forecast	90%	70%	50% (Most Prob)	30%	10%		30 Yr Avg
Period	(1000AF)	(1000AF)	(1000AF) (% AVG.)	(1000AF)	(1000AF)		(1000AF)
MOULTON RES inflow (million gal.)							
JUN-JUN	7.8	9.0	10.0	17	22	39	60
JUN-JUL	11.5	13.9	16.0	20	32	55	82
WARM SPRINGS CK at Anaconda (2)							
JUN-JUL	9.1	10.1	11.3	43	14.5	19.3	26
JUN-SEP	15.1	16.5	17.9	51	22	28	35
LITTLE BLACKFOOT nr Garrison							
JUN-JUL	5.4	6.8	8.2	24	17.3	31	34
JUN-SEP	9.4	11.9	14.5	35	25	40	41
FLINT CK nr Southern Cross (2)							
JUN-JUL	1.6	1.9	2.3	29	3.6	5.5	8.0
JUN-SEP	2.4	2.8	3.1	29	4.9	7.6	10.6
FLINT CK bl Boulder Ck							
JUN-JUL	11.2	12.2	13.4	39	17.9	25	34
JUN-SEP	19.0	21	23	46	29	38	50
LOWER WILLOW CK RES inflow							
JUN-JUL	0.7	0.9	1.0	22	1.7	2.8	4.6
JUN-SEP	1.0	1.2	1.3	24	2.1	3.3	5.5
MF ROCK CK nr Philipsburg							
JUN-JUL	8.8	10.1	11.2	27	14.9	20	42
JUN-SEP	12.7	14.2	15.8	32	20	26	49
ROCK CK nr Clinton							
JUN-JUL	28	33	38	23	53	75	165
JUN-SEP	53	59	64	32	81	106	202
NEVADA CK nr Finn							
JUN-JUL	1.1	1.4	1.7	23	3.0	3.9	7.5
JUN-SEP	1.8	2.1	2.5	27	4.2	6.8	9.2
CLEARWATER nr Clearwater							
JUN-JUL	14.9	17.6	20	31	28	39	65
JUN-SEP	19.0	21	24	32	31	42	74
BLACKFOOT nr Bonner							
JUN-JUL	91	108	125	30	172	240	414
JUN-SEP	152	177	200	40	250	325	505

CLARK FORK ab Milltown

JUN-JUL	68	78	87	26	129	192	339
JUN-SEP	106	124	143	32	194	270	442

CLARK FORK ab Missoula

JUN-JUL	166	188	210	28	280	380	753
JUN-SEP	265	305	345	36	425	535	947

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.

(2) - The value is natural flow - actual flow may be affected by upstream water management.

CLARK FORK ab FLINT CREEK

FLINT CREEK	3	10	15
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BACK CREEK	1	5	8
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CLARK FORK ab BLAKEFOOT	10	8	3
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BLAKEFOOT	9	12	17
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UPPER CLARK FORK	16	9	11
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UPPER CLARK FORK RIVER BASIN
Reservoir Storage (1000AF) End of May

Reservoir	Usable Capacity	***** Usable Storage *****		
		This Year	Last Year	Average
GEORGETOWN LAKE	31.0	28.1	30.8	27.0
LOWER WILLOW CREEK	4.9	4.1	5.1	4.4
NEVADA CREEK	12.6	4.9	12.4	11.4

UPPER CLARK FORK RIVER BASIN
Watershed Snowpack Analysis - June 1, 1992

Watershed	Number of Data Sites	This Year as Percent of	
		Last Year	Average
CLARK FORK ab FLINT CREEK	6	6	7
FLINT CREEK	3	18	15
ROCK CREEK	1	0	0
CLARK FORK ab BLACKFOOT	10	4	5
BLACKFOOT	7	12	17
UPPER CLARK FORK	16	9	11

BITTERROOT RIVER BASIN as of June 1, 1992

Snow water contents, from SNOTEL sites, are melted-out leaving the basin snowpack at 0% of average for this time of year. Last year at this time there was about 49 inches of snow water remaining on eight data sites. May mountain precipitation was 37% of average and 36% of last year. Water year precipitation, beginning October 1, 1991, was 78% of average and 80% of last year. Streams have reached their seasonal peak flows. May streamflows were well below average. Streamflow forecasts will be well below average, ranging from 26 to 38% of average, for their forecast periods. The Surface Water Supply Index (SWSI) is -2.8.

JUN-JUL	21	34	77	21	33	75	24
BITTERROOT at Darby							
JUN-JUL	32	40	82	26	31	132	743
JUN-JUL	87	44	104	34	105	176	311
SNOTEL at Darby (2)							
JUN-JUL	21.2	23.9	14.1	33	18.7	24	41
JUN-JUL	19.1	22.5	17.1	36	27	38	47
SNOTEL at Hamilton							
JUN-JUL	7.5	8.4	8.4	32	13.4	14.4	29
JUN-JUL	12.2	12.3	14.6	41	17.0	21	34
SNOTEL at Stevensville (2)							
JUN-JUL	5.1	6.0	6.9	38	8.4	11.7	18.2
JUN-JUL	9.5	9.7	10.8	47	13.1	16.9	23
BITTERROOT at Missoula							
JUN-JUL	177	189	225	31	273	345	734
JUN-JUL	148	215	235	28	290	370	873

* 20%, 30%, 40%, and 50% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 5% Chances of Exceeding are actually 7% and 4% exceedance levels.

(2) - The value for actual flow - actual flow may be affected by upstream water management.

BITTERROOT RIVER BASIN
Streamflow Forecasts - June 1, 1992

	<== Drier == Future Conditions == Wetter ==>						
Forecast Pt	Chance of Exceeding *						
Forecast	90%	70%	50% (Most Prob)	30%	10%		30 Yr Avg
Period	(1000AF)	(1000AF)	(1000AF) (% AVG.)	(1000AF)	(1000AF)		(1000AF)
WF BITTERROOT nr Conner (2)							
JUN-JUL	16.0	18.0	21	28	31	45	75
JUN-SEP	21	24	27	30	38	55	89
BITTERROOT nr Darby							
JUN-JUL	52	60	67	26	93	132	262
JUN-SEP	87	96	106	34	135	176	311
ROCK CK nr Darby (2)							
JUN-JUL	11.2	12.5	14.1	33	18.2	24	43
JUN-SEP	14.1	15.5	17.1	36	21	28	47
SKALKAHO CK nr Hamilton							
JUN-JUL	7.5	8.4	9.4	32	11.4	14.4	29
JUN-SEP	12.2	13.3	14.6	41	17.0	21	36
BURNT FORK CK nr Stevensville (2)							
JUN-JUL	5.1	6.0	6.9	38	8.8	11.7	18.2
JUN-SEP	8.5	9.7	10.8	47	13.3	16.9	23
BITTERROOT at Missoula							
JUN-JUL	177	199	225	31	275	345	736
JUN-SEP	188	215	235	28	290	370	853

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural flow - actual flow may be affected by upstream water management.

BITTERROOT RIVER BASIN
Reservoir Storage (1000AF) End of May

Reservoir	Usable Capacity	***** This Year	Usable Storage Last Year	***** Average
PAINTED ROCKS LAKE	31.7	32.8	33.9	30.4
COMO	34.9	27.6	31.4	28.9

BITTERROOT RIVER BASIN
Watershed Snowpack Analysis - June 1, 1992

Watershed	Number of Data Sites	This Year as Percent of Last Year	Percent of Average
WEST FORK BITTERROOT	3	0	0
EAST SIDE BITTERROOT	2	0	0
WEST SIDE BITTERROOT	4	0	0
BITTERROOT	9	0	0

LOWER CLARK FORK RIVER BASIN as of June 1, 1992

Snow water content was 25% of average and 22% of last year. Snowpacks at low and mid elevations have melted-out, and the remaining snowpack occurs at the highest elevations and on the coolest aspects. May mountain precipitation was 56% of average and 39% of last year. Water year precipitation, beginning October 1, 1991, was 74% of average and 70% of last year. Streamflows have reached their seasonal peaks. May streamflows were well below average. Streamflow forecasts will be well below average, ranging from 29 to 40% of average, for their forecast periods. The Surface Water Supply Index (SWSI) is -3.2 for the Clark Fork River above Missoula, -2.8 for the Bitterroot River and -3.1 for the Clark Fork River below Missoula.

CLARK FORK at Missoula

JUN-JUL	345	375	415	29	700	800	1400
JUN-SEP	450	500	540	31	675	800	1400

CLARK FORK at St. Regis (1)

JUN-JUL	380	475	570	30	750	1100	1900
JUN-SEP	480	600	720	31	825	1370	2310

CLARK FORK at Glacier (1.2)

JUN-JUL	1260	1530	1800	35	2210	3110	5630
JUN-SEP	1750	2080	2380	37	2840	3810	6480

THOMPSON at Thompson Falls

JUN-JUL	28	29	33	37	40	51	89
JUN-SEP	33	34	45	38	55	59	116

PROSPECT CR at Thompson Falls

JUN-JUL	12.8	14.3	16.3	37	30	24	44
JUN-SEP	17.0	19.0	21	40	38	32	53

CLARK FK at Whitehorse Rpd (1.2)

JUN-JUL	470	1300	1970	33	2660	3470	5984
JUN-SEP	1930	2290	2630	37	3170	4320	7168

* 50%, 70%, 90%, and 95% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 50% and 90% Chances of Exceeding are normally 5% and 95% exceedance levels.

(2) - The value in natural flow - actual flow may be affected by upstream water management.

LOWER CLARK FORK RIVER BASIN
Streamflow Forecasts - June 1, 1992

	<--- Drier ---		Future Conditions		--- Wetter --->		
Forecast Pt	Chance of Exceeding *						
Forecast	90%	70%	50% (Most Prob)	30%	10%		30 Yr Avg
Period	(1000AF)	(1000AF)	(1000AF) (% AVG.)	(1000AF)	(1000AF)		(1000AF)
CLARK FORK ab Missoula							
JUN-JUL	166	188	210	28	280	380	753
JUN-SEP	265	305	345	36	425	535	947
CLARK FORK b1 Missoula							
JUN-JUL	345	385	435	29	540	690	1490
JUN-SEP	450	505	560	31	675	845	1801
CLARK FORK at St. Regis (1)							
JUN-JUL	380	475	570	30	750	1150	1903
JUN-SEP	485	600	720	31	925	1370	2313
CLARK FORK nr Plains (1,2)							
JUN-JUL	1260	1530	1800	33	2210	3120	5457
JUN-SEP	1750	2080	2380	37	2840	3850	6486
THOMPSON nr Thompson Falls							
JUN-JUL	26	29	33	37	40	51	89
JUN-SEP	35	39	45	39	55	69	116
PROSPECT CK at Thompson Falls							
JUN-JUL	12.8	14.5	16.3	37	20	26	44
JUN-SEP	17.0	19.0	21	40	26	32	53
CLARK FK at Whitehorse Rpds (1,2)							
JUN-JUL	470	1500	1970	33	2440	3470	5984
JUN-SEP	1930	2290	2650	37	3170	4320	7166

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural flow - actual flow may be affected by upstream water management.

LOWER CLARK FORK RIVER BASIN
Reservoir Storage (1000AF) End of May

Reservoir	Usable Capacity	***** This Year	Usable Storage Last Year	***** Average
NOXON RAPIDS	335.0	326.7	331.3	279.6

LOWER CLARK FORK RIVER BASIN
Watershed Snowpack Analysis - June 1, 1992

Watershed	Number of Data Sites	This Year as Last Year	Percent of Average
UPPER CLARK FORK	16	9	11
BITTERROOT	9	0	0
LOWER CLARK FORK	10	22	25
CLARK FORK TOTAL	33	13	15
FLATHEAD	17	15	22
PEND OREILLE	49	14	18

JEFFERSON RIVER BASIN as of June 1, 1992

Snow water content was 7% of average and 5% of last year. For all practical purposes, snowpacks at all elevations have now melted-out. May mountain precipitation was 38% of average and 30% of last year. Water year precipitation, beginning October 1, 1991, was 74% of average and 74% of last year. Streamflows have reached their seasonal peaks. May streamflows were well below average. Streamflow forecasts will be well below average, ranging from 20 to 38% of average, for their forecast periods. Reservoir storage was well below average, at 62% of average, and 82% of last year. Lima Reservoir was 48% of average, Clark Canyon was 63% of average and Ruby River was 80% of average. The Surface Water Supply Index (SWSI) is -3.8 for the Beaverhead River, -3.4 for the Ruby River, -3.2 for the Big Hole River, -3.6 for the Boulder River and -3.4 for the Jefferson River.

JUN-JUL	7.8	10.8	16.0	27	35	79	92
JUN-SEP	12.0	16.0	22	29	51	87	75
BEAVERHEAD RIVER at Bartlett (2)							
JUN-JUL	11.0	16.0	22	30	49	88	73
JUN-SEP	18.0	26	32	31	61	110	106
RUBY RIVER near Alder							
JUN-JUL	7.6	11.2	17.0	38	35	96	85
JUN-SEP	13.0	18.0	26	43	35	89	61
BIG HOLE RIVER near Malross							
JUN-JUL	70	87	103	30	168	210	349
JUN-SEP	81	102	123	31	173	245	406
BOULDER RIVER near Boulder							
JUN-JUL	4.8	6.4	8.0	20	16.4	29	48
JUN-SEP	6.0	8.3	10.6	23	20	35	46
WILLOW CREEK near Harrison							
JUN-JUL	0.8	1.1	1.3	14	4.0	7.2	10.8
JUN-SEP	1.2	1.6	2.2	17	9.1	9.7	13.0
JEFFERSON near Three Forks (2)							
JUN-JUL	87	115	135	34	136	163	459
JUN-SEP	118	149	193	34	190	253	551

* 10%, 75%, 50%, and 25% Chance of exceeding are the probabilities that the actual flow will exceed the values in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.

(2) - The value is natural flow - actual flow may be affected by upstream water management.

JEFFERSON RIVER BASIN
Streamflow Forecasts - June 1, 1992

	<=== Drier === Future Conditions === Wetter ===>						
Forecast Pt	Chance of Exceeding *						
Forecast	90%	70%	50% (Most Prob)	30%	10%		30 Yr Avg
Period	(1000AF)	(1000AF)	(1000AF) (% AVG.)	(1000AF)	(1000AF)		(1000AF)
RED ROCK RIVER near Monida (2)							
JUN-JUL	4.3	7.0	9.5	24	14.9	23	39
JUN-SEP	6.1	9.4	12.2	26	19.3	30	47
BEAVERHEAD RIVER near Grant (2)							
JUN-JUL	7.8	10.4	14.0	27	39	75	52
JUN-SEP	12.0	16.0	22	29	52	97	75
BEAVERHEAD RIVER at Barratts (2)							
JUN-JUL	11.0	16.0	22	30	49	88	73
JUN-SEP	18.0	24	32	31	63	110	104
RUBY RIVER near Alder							
JUN-JUL	7.6	11.2	17.0	38	25	36	45
JUN-SEP	13.0	18.0	26	43	35	49	61
BIG HOLE RIVER near Melrose							
JUN-JUL	70	87	105	30	148	210	349
JUN-SEP	81	102	125	31	173	245	406
BOULDER RIVER near Boulder							
JUN-JUL	4.8	6.4	8.0	20	16.4	29	40
JUN-SEP	6.0	8.3	10.6	23	20	35	46
WILLOW CREEK near Harrison							
JUN-JUL	0.8	1.1	1.5	14	4.0	7.8	10.8
JUN-SEP	1.2	1.6	2.2	17	5.1	9.5	13.0
JEFFERSON near Three Forks (2)							
JUN-JUL	87	115	154	34	230	345	459
JUN-SEP	116	149	190	34	300	455	551

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.

(2) - The value is natural flow - actual flow may be affected by upstream water management.

JEFFERSON RIVER BASIN
Reservoir Storage (1000AF) End of May

Reservoir	Usable Capacity	***** This Year	***** Usable Storage Last Year	***** Average
LIMA	84.0	31.1	47.3	64.2
CLARK CANYON	255.6	103.8	112.8	165.3
RUBY RIVER	38.8	30.3	40.4	37.9

JEFFERSON RIVER BASIN
Watershed Snowpack Analysis - June 1, 1992

Watershed	Number of Data Sites	This Year as Percent of Last Year	Average
BEAVERHEAD	11	12	16
RUBY	5	0	0
BIGHOLE	8	11	13
BOULDER	3	0	0
JEFFERSON	21	5	7

JUN-JUL	76	165	175	61	145	174	200
JUN-SEP	162	197	220	79	245	280	307
MAGISON RIVER near Hallister (7)							
JUN-JUL	168	215	245	66	275	320	368
JUN-SEP	280	325	360	67	385	440	528

* 90%, 70%, 50%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 10 and 90 percentiles.

(2) - The value of actual flow and flow may be affected by various water management.

MADISON RIVER BASIN as of June 1, 1992

Snow water content was 2% of average and 1% of last year, leaving the basin melted-out for all practical purposes. May mountain precipitation was 61% of average and 37% of last year. Water year precipitation, beginning October 1, 1991, was 78% of average and 80% of last year. Streamflows have reached their seasonal peaks. May streamflows were below average. Streamflow forecasts will be well below average, ranging from 63 to 66% of average, for their forecast periods. Reservoir storage was 111% of average and 96% of last year. Ennis Lake was 104% of average and Hebgen Lake was 112% of average. The basin Surface Water Supply Index (SWSI) is -2.9.

MADISON RIVER BASIN
Streamflow Forecasts - June 1, 1992

	<--- Drier --- Future Conditions --- Wetter --->					
Forecast Pt	Chance of Exceeding *					
Forecast	90%	70%	50% (Most Prob)	30%	10%	30 Yr Avg
Period	(1000AF)	(1000AF)	(1000AF) (% AVG.)	(1000AF)	(1000AF)	(1000AF)

MADISON RIVER near Grayling (2)

JUN-JUL	76	105	125	63	145	174	200
JUN-SEP	162	197	220	72	245	280	307

MADISON RIVER near McAllister (2)

JUN-JUL	168	215	245	66	275	320	369
JUN-SEP	280	325	360	67	395	440	538

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural flow - actual flow may be affected by upstream water management.

MADISON RIVER BASIN
Reservoir Storage (1000AF) End of May

Reservoir	Usable Capacity	***** This Year	Usable Storage Last Year	***** Average
ENNIS LAKE	41.0	37.2	36.4	35.8
HEBGEN LAKE	377.5	345.9	360.4	309.8

MADISON RIVER BASIN
Watershed Snowpack Analysis - June 1, 1992

Watershed	Number of Data Sites	This Year as Percent of Last Year	Percent of Average
MADISON above HEBGEN	4	0	0
LOWER MADISON	5	2	3
MADISON	9	1	2

GALLATIN RIVER BASIN as of June 1, 1992

Snow water content was 5% of average and 5% of last year, leaving the basin melted-out for all practical purposes. May mountain precipitation was 77% of average and 64% of last year. Water year precipitation, beginning October 1, 1991, was 79% of average and 78% of last year. Streamflows have reached their seasonal peaks. May streamflows were well below to slightly above average. Streamflow forecasts will be well below average, ranging from 35 to 45% of average, for their forecast periods. Middle Creek Reservoir was 117% of average and 105% of last year. The basin Surface Water Supply Index (SWSI) is -2.7.

MIDDLE CREEK near Browne (CFS)

JUN-JUL	9.4	8.3	10.1	46	13.3	14.4	23
JUN-SEP	8.1	11.1	13.7	47	15.7	16.7	29

GALLATIN RIVER at Logan

JUN-JUL	37	77	100	35	140	203	267
JUN-SEP	70	86	131	36	179	261	370

* 50%, 70%, 90%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the values in the table.

The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 50% Chances of Exceeding are normally 5% and 25% exceedance levels.
- (2) - The value is natural flow - actual flow may be affected by upstream water management.

GALLATIN RIVER BASIN
Streamflow Forecasts - June 1, 1992

	<=== Drier === Future Conditions === Wetter ===>						
Forecast Pt	Chance of Exceeding *						
Forecast	90%	70%	50% (Most Prob)	30%	10%		30 Yr Avg
Period	(1000AF)	(1000AF)	(1000AF) (% AVG.)	(1000AF)	(1000AF)		(1000AF)
GALLATIN RIVER near Gateway							
JUN-JUL	82	108	125	43	143	168	294
JUN-SEP	114	143	163	44	183	210	371
HYALITE CREEK near Bozeman (2)							
JUN-JUL	5.4	8.2	10.1	46	12.0	14.8	22
JUN-SEP	8.1	11.1	13.2	47	15.3	18.3	28
GALLATIN RIVER at Logan							
JUN-JUL	52	72	100	35	142	205	287
JUN-SEP	70	96	133	36	179	245	370

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural flow - actual flow may be affected by upstream water management.

GALLATIN RIVER BASIN
Reservoir Storage (1000AF) End of May

Reservoir	Usable Capacity	***** This Year	Usable Storage Last Year	***** Average
MIDDLE CREEK	8.0	8.2	7.8	7.0

GALLATIN RIVER BASIN
Watershed Snowpack Analysis - June 1, 1992

Watershed	Number of Data Sites	This Year as Percent of Last Year	Percent of Average
UPPER GALLATIN	3	7	9
EAST GALLATIN	6	6	6
GALLATIN	8	5	5

MAINSTEM MISSOURI RIVER BASIN as of June 1, 1992

Snow water content at all SNOTEL sites had melted-out leaving the basin at 0% of average. Last year there was about 60 inches of snow water remaining at the SNOTEL sites. May mountain precipitation was 57% of average and 50% of last year. Water year precipitation, beginning October 1, 1991, was 73% of average and 69% of last year. Streamflows have reached their seasonal peaks. May streamflows were well below average. Streamflow forecasts will be well below average, ranging from 34 to 36% of average, for their forecast periods. Reservoir storages were 91% of average and 90% of last year. Canyon Ferry Lake was 90% of average and 90% of last year. The Surface Water Supply Index is -3.1 for the Missouri River above Canyon Ferry.

MISSOURI RIVER ABOVE CANYON FERRY

JUN-JUL	1.8	2.4	3.0	35	8.24	7.4	23.0
JUN-SEP	3.2	3.9	4.8	30	7.3	10.2	28.8

MISSOURI RIVER at Gibson Dam (2)

JUN-JUL	62	74	90	32	133	152	291
JUN-SEP	92	109	125	38	192	192	420

MISSOURI RIVER at Fort Benton (2)

JUN-JUL	430	320	800	38	920	1190	2671
JUN-SEP	780	905	1010	43	1370	1690	2343

MISSOURI RIVER near Shelby (2)

JUN-JUL	67	57	65	28	126	220	236
JUN-SEP	61	72	83	30	147	240	277

MISSOURI RIVER at Vargelle (2)

JUN-JUL	465	555	870	35	1040	1590	1942
JUN-SEP	820	950	1080	42	1490	2100	2526

MISSOURI RIVER near Landusky (2)

JUN-JUL	573	635	740	36	1180	1630	2109
JUN-SEP	863	1010	1160	42	1640	2330	2792

MISSOURI RIVER below Fort Peck (2)

JUN-JUL	435	580	700	34	1260	2080	2671
JUN-SEP	820	950	1090	41	1780	2580	3053

LAKE SUPERIOR (1) (2)

JUN-JUL	2020	2370	3160	51	2880	4040	6.14
JUN-SEP	2720	3090	4060	54	4070	5680	7540

* 10%, 50%, 90%, and 95% chances of exceeding are the probabilities that the actual flow will exceed the values in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 95% Chances of Exceeding are actually 1% and 99% exceedance levels.

(2) - The value is actual flow - actual flow may be affected by upstream water management.

MAINSTEM MISSOURI RIVER BASIN
Streamflow Forecasts - June 1, 1992

	<--- Drier --- Future Conditions --- Wetter --->						
Forecast Pt	Chance of Exceeding *						
Forecast	90%	70%	50% (Most Prob)	30%	10%		30 Yr Avg
Period	(1000AF)	(1000AF)	(1000AF) (% AVG.)	(1000AF)	(1000AF)		(1000AF)
MISSOURI RIVER at Toston (2)							
JUN-JUL	205	380	500	45	620	795	1120
JUN-SEP	305	515	660	45	805	1020	1461
PRICKLY PEAR CREEK nr Clancy							
JUN-JUL	1.8	2.4	3.0	25	5.0	7.9	12.0
JUN-SEP	3.2	3.9	4.8	30	7.3	10.9	15.8
SUN RIVER at Gibson Dam (2)							
JUN-JUL	62	76	90	32	115	152	281
JUN-SEP	92	109	125	38	152	192	329
MISSOURI RIVER at Fort Benton (2)							
JUN-JUL	450	520	600	36	920	1390	1671
JUN-SEP	790	905	1010	45	1370	1890	2262
MARIAS RIVER near Shelby (2)							
JUN-JUL	47	57	65	28	128	220	236
JUN-SEP	61	72	83	30	147	240	277
MISSOURI RIVER at Virgelle (2)							
JUN-JUL	465	565	670	35	1040	1590	1942
JUN-SEP	820	950	1080	42	1490	2100	2564
MISSOURI RIVER near Landusky (2)							
JUN-JUL	525	635	740	35	1180	1830	2109
JUN-SEP	865	1010	1160	42	1640	2350	2792
MISSOURI RIVER blw Fort Peck (2)							
JUN-JUL	455	580	705	34	1260	2080	2072
JUN-SEP	820	955	1090	41	1720	2660	2653
LAKE SAKAKAWEA Inflow (2)							
JUN-JUL	2020	2570	3100	51	4220	5880	6111
JUN-SEP	2720	3400	4060	54	5270	7050	7560

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural flow - actual flow may be affected by upstream water management.

MAINSTEM MISSOURI RIVER BASIN
Reservoir Storage (1000AF) End of May

Reservoir	Usable Capacity	***** This Year	Usable Storage Last Year	***** Average
CANYON FERRY LAKE	2043.0	1493.0	1669.0	1659.0
HELENA VALLEY	9.2	5.7	8.2	7.3
LAKE HELENA	10.4	11.1	10.7	10.1
HAUSER & HELENA	61.9	63.7	62.5	60.9
HOLTER LAKE	81.9	81.4	81.0	78.0
FORT PECK LAKE (MAF)	18.9	11.2	11.1	15.5

MAINSTEM MISSOURI RIVER BASIN
Watershed Snowpack Analysis - June 1, 1992

Watershed	Number of Data Sites	This Year as Percent of Last Year	Percent of Average
MISSOURI HEADWATERS	33	5	6
WEST SIDE MISSOURI	4	0	0
SMITH-BELT	4	1	1
MAINSTEM MISSOURI	8	0	0
SUN-TETON-MARIAS	6	0	0
JUDITH-MUSSELSHELL	5	0	1
MISSOURI above FORT PECK	48	3	4
MILK RIVER	8	0	0
MISSOURI in MONTANA	55	3	4
MISSOURI blw YELLOWSTONE	98	10	13

SMITH-JUDITH-MUSSELSHELL RIVER BASINS as of June 1, 1992

Snowpacks were essentially melted-out with only 1% of average snow water content remaining. May mountain precipitation was 75% of average and 61% of last year. Water year precipitation, beginning October 1, 1991, was 83% of average and 72% of last year. Streamflows have reached their seasonal peaks. May streamflows were well below average. Streamflow forecasts will be well below average, ranging from 14 to 35% of average for their forecast periods. Reservoir storages were around 60% of average and about 50% of last year. Smith River was 46% of average, Newlan Creek was 108% of average, Bair was 92% of average and Martinsdale was 34% of average. The Surface Water Supply Index (SWSI) is -2.5 for the Smith River and -2.2 for the Musselshell River.

JUN-JUL	2.5	1.0	0.5	35	4.0	1.0	19.0
JUN-SEP	1.0	0.5	0.0	29	4.0	1.0	12.0

SM MUSSELSHELL near Delvin

JUN-JUL	0.5	0.0	0.0	30	1.0	1.0	7.0
JUN-SEP	0.7	0.0	1.0	31	1.0	1.0	1.0

SM MUSSELSHELL near Martinsdale

JUN-JUL	5.0	6.0	8.0	31	13.0	27	34
JUN-SEP	5.0	5.0	11.0	30	19.0	31	29

* 50%, 70%, 90%, and 100 chances of exceeding are the probabilities that the actual flow will exceed the values in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 50% Chance of Exceeding are actually 10 and 50% exceedance levels.

(2) - The value is natural flow - actual flow may be affected by upstream water management.

SMITH-JUDITH-MUSSELSHELL RIVER BASINS
Streamflow Forecasts - June 1, 1992

	<=== Drier === Future Conditions === Wetter ===>						
Forecast Pt	Chance of Exceeding *						
Forecast	90%	70%	50% (Most Prob)	30%	10%		30 Yr Avg
Period	(1000AF)	(1000AF)	(1000AF) (% AVG.)	(1000AF)	(1000AF)		(1000AF)
SMITH RIVER nr Ft. Logan							
JUN-JUL	2.9	4.0	5.2	14	8.4	13.1	36
JUN-SEP	5.6	7.1	9.0	19	12.9	18.7	47
SHEEP CK nr White Sulphur Springs							
JUN-JUL	2.5	3.0	3.5	35	4.9	7.0	10.0
JUN-SEP	3.6	4.3	4.9	38	6.5	8.7	12.9
NF MUSSELSHELL near Delpine							
JUN-JUL	0.5	0.6	0.7	30	1.1	1.7	2.3
JUN-SEP	0.7	0.8	1.0	32	1.5	2.3	3.1
SF MUSSELSHELL abv Martinsdale							
JUN-JUL	5.2	6.5	8.0	31	15.7	27	26
JUN-SEP	8.4	9.9	11.4	39	19.4	31	29

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural flow - actual flow may be affected by upstream water management.

SMITH-JUDITH-MUSSELSHELL RIVER BASINS
Reservoir Storage (1000AF) End of May

Reservoir	Usable Capacity	***** This Year	Usable Storage Last Year	***** Average
SMITH RIVER	10.6	4.8	11.5	10.5
NEWLAN CREEK	12.4	10.4	12.1	9.6
BAIR	7.0	5.7	7.2	6.2
MARTINSDALE	23.1	5.9	21.6	17.2
DEADMAN'S BASIN	72.2	54.7	60.2	55.1

SMITH-JUDITH-MUSSELSHELL RIVER BASINS
Watershed Snowpack Analysis - June 1, 1992

Watershed	Number of Data Sites	This Year as Percent of Last Year	Percent of Average
SMITH-BELT	4	1	1
JUDITH-MUSSELSHELL	5	0	1

SUN-TETON-MARIAS RIVER BASINS as of June 1, 1992

Snowpacks have melted-out, leaving the basin at 0% of average. May mountain precipitation was 45% of average and 31% of last year. Water year precipitation, beginning October 1, 1991, was 72% of average and 49% of last year. Streamflows have reached their seasonal peaks. May streamflows were well below average. Streamflow forecasts will be well below average, ranging from 15 to 38% of average, for their forecast periods. Reservoir storages were near normal at 97% of average and 86% of storages last year. The Surface Water Supply Index (SWSI) is -3.2 for the Sun River and -3.1 for the Marias River.

SUN RIVER							
SUN RIVER CREEK at Browning (2)							
JUN-JUL	16.8	19.0	24	73	47	81	103
JUN-SEP	26	30	35	30	32	31	117
SUN RIVER CREEK near Browning (2)							
JUN-JUL	8.8	9.7	11.3	20	23	30	57
JUN-SEP	19.0	21	23	21	34	25	36
SUN RIVER CREEK Inflow at Dupuyer							
JUN-JUL	11.4	12.9	14.6	36	21	31	36
JUN-SEP	19.0	22	24	48	31	43	30
SUN RIVER CREEK near Valley							
JUN-JUL	0.3	0.6	0.8	11	4.8	10.2	7.8
JUN-SEP	0.9	1.1	1.4	13	3.7	12.0	9.5
SUN RIVER CREEK at Gut Bank							
JUN-JUL	11.8	13.6	15.7	23	13	34	67
JUN-SEP	14.0	16.8	20	15	28	39	58
MARIAS RIVER near Shelby (2)							
JUN-JUL	47	57	65	98	128	223	234
JUN-SEP	61	72	83	30	147	240	277

10%, 50%, and 100% chances of exceeding are the probabilities that the actual flow will exceed the volume in the table.

The average is computed for the 1961-1990 base period.

(1) - The volume listed under the 10% and 50% chance of exceeding are actually 1% and 5% exceedance levels.

(2) - The value is natural flow - actual flow may be affected by upstream water management.

SUN-TETON-MARIAS RIVER BASINS
Streamflow Forecasts - June 1, 1992

	<--- Drier --- Future Conditions --- Wetter --->						
Forecast Pt	Chance of Exceeding *						
Forecast	90%	70%	50% (Most Prob)	30%	10%		30 Yr Avg
Period	(1000AF)	(1000AF)	(1000AF) (% AVG.)	(1000AF)	(1000AF)		(1000AF)
SUN RIVER at Gibson Dam (2)							
JUN-JUL	62	76	90	32	115	152	281
JUN-SEP	92	109	125	38	152	192	329
TWO MEDICINE CREEK nr Browning (2)							
JUN-JUL	16.0	19.0	24	23	47	81	105
JUN-SEP	26	30	35	30	58	91	117
BADGER CREEK near Browning (2)							
JUN-JUL	8.0	9.7	11.6	20	22	38	57
JUN-SEP	19.0	21	23	31	34	50	74
SWIFT RESERVOIR Inflow nr Dupuyer							
JUN-JUL	11.4	12.9	14.6	38	21	31	38
JUN-SEP	19.0	22	24	48	31	41	50
DUPUYER CREEK near Valier							
JUN-JUL	0.5	0.6	0.8	11	4.6	10.2	7.6
JUN-SEP	0.9	1.1	1.4	15	5.7	12.0	9.5
CUT BANK CREEK at Cut Bank							
JUN-JUL	11.8	13.6	15.7	33	23	34	47
JUN-SEP	14.0	16.8	20	36	28	39	56
MARIAS RIVER near Shelby (2)							
JUN-JUL	47	57	65	28	128	220	236
JUN-SEP	61	72	83	30	147	240	277

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural flow - actual flow may be affected by upstream water management.

SUN-TETON-MARIAS RIVER BASINS
Reservoir Storage (1000AF) End of May

Reservoir	Usable Capacity	***** This Year	Usable Storage Last Year	***** Average
GIBSON	99.1	78.0	85.0	90.1
PISHKUN	32.0	28.9	30.8	30.1
WILLOW CREEK	32.2	24.2	31.6	28.5
LOWER TWO MEDICINE LAKE	11.9	12.0	12.6	11.1
FOUR HORNS LAKE	19.2	12.1	12.4	13.0
SWIFT	30.0	16.9	25.1	24.8
LAKE FRANCES	112.0	65.5	101.0	87.4
LAKE ELWELL (TIBER)	1347.0	711.8	811.9	690.8

SUN-TETON-MARIAS RIVER BASINS
Watershed Snowpack Analysis - June 1, 1992

Watershed	Number of Data Sites	This Year as Last Year	Percent of Average
SUN-TETON	3	0	0
MARIAS	3	0	0
SUN-TETON-MARIAS	6	0	0

ST. MARY and MILK RIVER BASINS as of June 1, 1992

Snow water content was 32% of average and 19% of last year. May mountain precipitation was 43% of average and 42% of last year. Water year precipitation, beginning October 1, 1991, was 74% of average and 55% of last year. Streamflows have reached their seasonal peaks and receding. May streamflows were well below average. Streamflow forecasts will be well below average, averaging around 50% of average, for their forecast periods. Reservoir storage on the last day of May was 45% of average and 42% of last year. Lake Sherburne storage was 58% of average, Fresno was 40% of average, Beaver Creek was 93% of average and Nelson was 42% of average. The Surface Water Supply Index (SWSI) for the Milk River, USBR users, is -2.9 and -3.2 for other users.

ST. MARY and MILK RIVER BASINS
Streamflow Forecasts - June 1, 1992

	<--- Drier --- Future Conditions --- Wetter --->						
Forecast Pt	Chance of Exceeding *						
Forecast	90%	70%	50% (Most Prob)	30%	10%		30 Yr Avg
Period	(1000AF)	(1000AF)	(1000AF) (% AVG.)	(1000AF)	(1000AF)		(1000AF)

SWIFTCURRENT CK at Sherburne (2)

JUN-JUL	23	30	34	51	38	45	67
JUN-SEP	39	46	51	60	56	64	85

ST. MARY RIVER near Babb (2)

JUN-JUL	82	121	148	54	175	215	273
JUN-SEP	128	171	200	58	230	270	342

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural flow - actual flow may be affected by upstream water management.

ST. MARY and MILK RIVER BASINS
Reservoir Storage (1000AF) End of May

Reservoir	Usable Capacity	***** This Year	Usable Storage Last Year	***** Average
LAKE SHERBURNE	64.3	18.7	37.5	32.0
FRESNO	127.0	35.4	100.2	89.1
BEAVER CREEK	3.5	2.7	3.4	2.9
NELSON	66.8	18.0	37.0	42.6

ST. MARY and MILK RIVER BASINS
Watershed Snowpack Analysis - June 1, 1992

Watershed	Number of Data Sites	This Year as Percent of Last Year	Percent of Average
MILK HEADWATERS	2	0	0
BEAR PAW	6	0	0
MILK RIVER	8	0	0
ST. MARY	3	19	33
ST. MARY and MILK	9	19	32
BOW RIVER in ALBERTA	0	0	0
OLDMAN RIVER in ALBERTA	0	0	0

UPPER YELLOWSTONE RIVER BASIN as of June 1, 1992

Snow water content was 21% of average and 18% of last year. May mountain precipitation was 78% of average and 69% of last year. Water year precipitation, beginning October 1, 1991, was 87% of average and 80% of last year. Streamflows have reached their seasonal peaks and are receding. May streamflows were average to well above average. Streamflow forecasts will be well below average, ranging from 26 to 63% of average, for their forecast periods. Reservoir storage on the last day of May was 134% of average and 123% of last year. Mystic Lake was 224% of average and Cooney was 109% of average. The Surface Water Supply Index (SWSI) is -1.5 for the Yellowstone River above Livingston, -1.1 for the Shields River, -1.4 for the Boulder River, -1.6 for the Stillwater River, -1.9 for the Clarks Fork River, -1.4 for the Rock/Red Lodge Creeks and -1.6 for the Yellowstone River above the Bighorn River.

YELLOWSTONE RIVER near Livingston

JUN-JUL	463	343	623	47	703	430	1116
JUN-SEP	630	780	840	50	960	1030	1721

SHIELDS RIVER near Livingston

JUN-JUL	12.3	16.2	26	26	33	23	41
JUN-SEP	23	28	32	34	47	43	90

BOULDER RIVER at Big Timber

JUN-JUL	21	94	105	42	123	134	251
JUN-SEP	67	124	140	50	180	190	281

W. FORKED CREEK near Boone (2)

JUN-JUL	22	26	30	58	34	45	51
JUN-SEP	37	41	45	63	50	58	65

STILLWATER RIVER at Absaroka (2)

JUN-JUL	168	147	210	35	245	300	380
JUN-SEP	323	335	390	61	330	385	472

CLARK'S FORK RIVER near Bailey

JUN-JUL	180	134	170	43	203	250	191
JUN-SEP	180	141	210	44	241	290	231

RED LODGE CR. near Shoshone Falls (2)

JUN-JUL	16.3	15.3	15.8	53	21	29	34
JUN-SEP	16.8	19.8	22	63	31	36	32

YELLOWSTONE RIVER at Billings

JUN-JUL	750	1130	1210	43	1320	1810	2275
JUN-SEP	1240	1605	1810	52	2020	2360	3125

* 50%, 75%, 90%, and 10% chance of exceeding all the probabilities that the actual flow will exceed the volume in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 50% and 90% chance of exceeding are actually 10 and 10% exceedance levels.

(2) - The value is natural flow - actual flow may be affected by upstream water management.

UPPER YELLOWSTONE RIVER BASIN
Streamflow Forecasts - June 1, 1992

	<== Drier == Future Conditions == Wetter ==>						
Forecast Pt	Chance of Exceeding *						
Forecast	90%	70%	50% (Most Prob)	30%	10%	30 Yr Avg	
Period	(1000AF)	(1000AF)	(1000AF) (% AVG.)	(1000AF)	(1000AF)	(1000AF)	(1000AF)
YELLOWSTONE at Lake Outlet							
JUN-JUL	125	170	200	42	230	275	472
JUN-SEP	210	265	300	43	335	390	691
YELLOWSTONE at Corwin Springs							
JUN-JUL	310	380	450	39	525	630	1156
JUN-SEP	490	565	635	43	705	805	1484
YELLOWSTONE RIVER near Livingston							
JUN-JUL	465	545	625	47	705	820	1335
JUN-SEP	690	780	860	50	940	1050	1721
SHIELDS RIVER near Livingston							
JUN-JUL	12.3	16.2	20	26	33	53	77
JUN-SEP	23	28	32	34	47	69	95
BOULDER RIVER at Big Timber							
JUN-JUL	81	94	105	42	125	154	253
JUN-SEP	107	124	140	50	160	190	282
W. ROSEBUD CREEK near Roscoe (2)							
JUN-JUL	22	26	30	59	34	41	51
JUN-SEP	37	41	45	65	50	56	69
STILLWATER RIVER nr Absarokee (2)							
JUN-JUL	148	182	210	55	245	300	380
JUN-SEP	225	255	290	61	330	385	475
CLARKS FORK RIVER near Belfry							
JUN-JUL	122	146	170	43	200	250	395
JUN-SEP	154	181	210	46	245	290	453
RED LODGE CK blw Cooney Res (2)							
JUN-JUL	10.3	12.5	15.0	63	21	29	24
JUN-SEP	16.0	19.0	22	63	28	36	35
YELLOWSTONE RIVER at Billings							
JUN-JUL	790	1100	1310	52	1520	1830	2525
JUN-SEP	1280	1600	1810	57	2020	2340	3159

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural flow - actual flow may be affected by upstream water management.

UPPER YELLOWSTONE RIVER BASIN
Reservoir Storage (1000AF) End of May

Reservoir	Usable Capacity	***** This Year	Usable Storage Last Year	***** Average
MYSTIC LAKE	21.0	12.3	5.6	5.5
COONEY	27.4	21.8	22.1	20.0

UPPER YELLOWSTONE RIVER BASIN
Watershed Snowpack Analysis - June 1, 1992

Watershed	Number of Data Sites	This Year as Percent of Last Year	Percent of Average
YELLOWSTONE ab LIVINGSTON	10	19	21
SHIELDS	6	0	0
BOULDER-STILLWATER	3	17	22
CLARK'S FORK-ROCK CREEK	9	30	35
YELLOWSTONE above BIGHORN	24	19	21

LOWER YELLOWSTONE RIVER BASIN as of June 1, 1992

Snow water content was 21% of average and 18% of last year. May mountain precipitation was 108% of average and 128% of last year. Water year precipitation, beginning October 1, 1991, was 95% of average and 81% of last year. Streamflows have reached their seasonal peaks and receding. May streamflows were well below to near average. Streamflow forecasts will be well below average, ranging from 16 to 33% of average, for their forecast periods. Reservoir storage was 101% of average and 96% of last year. The Surface Water Supply Index (SWSI) is -1.6 for the Yellowstone River above the Bighorn River, -1.1 for the Bighorn below Bighorn Lake, -1.4 for the Little Bighorn River, -0.7 for the Tongue River, -1.2 for the Powder River and -1.5 for Yellowstone below the Bighorn.

YELLOWSTONE RIVER at Bighorn (1)								
JUN-JUL	11.0	10.0	10.0	43	57.0	920	1550	
JUN-SEP	15.0	14.0	14.0	42	73.0	1010	2800	
LITTLE BIGHORN RIVER at Bighorn								
JUN-JUL	13.0	13.0	23	31	18	32	71	
JUN-SEP	20	20	42	44	97	79	53	
TONGUE RIVER near Decker (2)								
JUN-JUL	46	56	70	53	98	138	432	
JUN-SEP	67	75	87	58	118	163	453	
YELLOWSTONE at Miles City (2)								
JUN-JUL	100	1000	1880	50	2350	3080	1153	
JUN-SEP	1150	1910	2420	52	3430	3690	5433	
POWDER RIVER at Cheyenne								
JUN-JUL	15.0	33	10	36	42	108	316	
JUN-SEP	20	39	47	34	80	130	378	
POWDER RIVER near Lodgepole								
JUN-JUL	18.0	25	12	25	69	127	156	
JUN-SEP	24	48	30	31	91	150	182	
YELLOWSTONE RIVER at Bismarck (2)								
JUN-JUL	1010	1020	1870	40	2420	3730	3928	
JUN-SEP	1420	1700	2400	42	4300	5000	5783	

* 50%, 75%, 90%, and 95% values of streamflow are the probabilities that the actual flow will exceed the values in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 5% columns are computed by assuming an average of 30 and 20% streamflow levels.

(2) - The values listed in the 10% and 5% columns are computed by assuming an average of 30 and 20% streamflow levels.

LOWER YELLOWSTONE RIVER BASIN
Streamflow Forecasts - June 1, 1992

	<--- Drier --- Future Conditions --- Wetter --->						
Forecast Pt	Chance of Exceeding *						
Forecast	90%	70%	50% (Most Prob)	30%	10%		30 Yr Avg
Period	(1000AF)	(1000AF)	(1000AF) (% AVG.)	(1000AF)	(1000AF)		(1000AF)
YELLOWSTONE RIVER at Billings							
JUN-JUL	790	1100	1310	52	1520	1830	2525
JUN-SEP	1280	1600	1810	57	2020	2340	3159
BIG HORN RIVER nr St. Xavier (2)							
JUN-JUL	310	400	495	43	670	925	1141
JUN-SEP	355	445	545	42	735	1010	1306
LITTLE BIGHORN RIVER nr Hardin							
JUN-JUL	13.0	19.0	25	33	38	58	75
JUN-SEP	26	32	42	46	57	78	92
TONGUE RIVER near Decker (2)							
JUN-JUL	46	58	70	53	98	138	132
JUN-SEP	62	75	87	56	118	163	156
YELLOWSTONE at Miles City (2)							
JUN-JUL	700	1400	1880	50	2360	3060	3753
JUN-SEP	1150	1910	2420	52	2930	3690	4631
POWDER RIVER at Moorhead							
JUN-JUL	16.0	23	30	26	62	108	116
JUN-SEP	30	39	47	34	80	130	138
POWDER RIVER near Locate							
JUN-JUL	18.0	25	32	23	69	122	138
JUN-SEP	34	42	50	31	91	150	162
YELLOWSTONE RIVER nr Sidney (2)							
JUN-JUL	1010	1820	2370	60	2920	3730	3928
JUN-SEP	1430	1910	2950	62	4100	5800	4763

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.

(2) - The value is natural flow - actual flow may be affected by upstream water management.

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LOWER YELLOWSTONE RIVER BASIN
Reservoir Storage (1000AF) End of May

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Reservoir	Usable Capacity	***** This Year	Usable Storage Last Year	***** Average
BIGHORN LAKE	1356.0	869.2	917.4	855.6
TONGUE RIVER	68.0	43.9	36.0	48.2

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LOWER YELLOWSTONE RIVER BASIN
Watershed Snowpack Analysis - June 1, 1992

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Watershed	Number of Data Sites	This Year as Last Year	Percent of Average
BIG HORN (Wyoming)	26	14	18
LITTLE BIGHORN	2	48	46
TONGUE RIVER (Wyoming)	5	25	29
POWDER RIVER (Wyoming)	6	11	13
YELLOWSTONE RIVER	51	16	19

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